

SEQUENCE LISTING

SEQ ID NO: 1 (human CatSper2 cDNA sequence - variant A2)

ATGGCCGCTT	ACCAACAAGA	AGAGCAGATG	CAGCTTCCCC	GAGCTGATGC	0050
CATTGTTCA	CGTCTCATCG	ATACTTTCTC	TCTCATTGAG	CATTGCAAG	0100
GCTTGAGCCA	AGCTGTGCCG	CGGCACACTA	TCAGGGAGTT	ACTTGATCCT	0150
TCCCGCCAGA	AGAAACTTGT	ATTGGGAGAT	CAACACCAGC	TAGTGCGTTT	0200
CTCTATAAAG	CCTCAGCGTA	TAGAACAGAT	TTCACATGCC	CAGAGGCTGT	0250
TGAGCAGGCT	TCATGTGCGC	TGCAGTCAGA	GGCCACCTCT	TTCTTTGTGG	0300
GCCGGATGGG	TCCTTGAGTG	TCCTCTCTTC	AAAAACTTCA	TCATCTTCCT	0350
GGTCTTTTGT	AATACGATCA	TATTGATGGT	TGAAATAGAA	TTGCTGGAAT	0400
CCACAAATAC	CAAACTATGG	CCATTGAAGC	TGACCTTGGA	GGTGGCAGCT	0450
TGGTTTATCT	TGCTTATTTT	CATCCTGGAG	ATCCTTCTTA	AGTGGCTATC	0500
CAACTTTTCT	GTTTTCTGGA	AGAGTGCCTG	GAATGTCTTT	GACTTTGTGG	0550
TTACCATGTT	GTCCCTGCTT	CCCGAGGTTG	TGGTATTGGT	AGGGGTAACA	0600
GGCCAATCGG	TGTGGCTTCA	GCTTCTGAGG	ATCTGCCGGG	TGCTGAGGTC	0650
TCTCAAATC	CTTGACAAT	TCCGTCAAAT	TCAAATTATT	ATTTTGGTCC	0700
TGGTCAGGGC	CCTCAAGAGC	ATGACCTTCC	TCTTGATGTT	GCTGCTCATC	0750
TTCTTCTACA	TTTTTGCTGT	GACTGGTGTC	TACGTCTTCT	CAGAGTACAC	0800
CCGTTACACT	CGTCAGGACC	TGGAGTACCA	TGTGTTCTTC	TCGGACCTCC	0850
CGAATTCCCT	GGTAACAGTG	TTCATTCTCT	TCACCTTGGA	TCATTGGTAT	0900
GCACTGCTTC	AGGACGTCTG	GAAGGTGCCT	GAAGTCAGTC	GCATCTTCAG	0950
CAGCATCTAT	TTCATCCTTT	GGTGTGCT	TGGCTCCATT	ATCTTTCGAA	1000
GTATCATAGT	AGCCATGATG	GTTACTAACT	TTCAGAATAT	CAGGAAAGAG	1050
CTGAATGAGG	AGATGGCGCG	TCGGGAGGTT	CAGCTCAAAG	CTGACATGTT	1100
CAAGCGGCAG	ATCATCCAGA	GGAGAAAAAA	CATGTCACAT	GAAGCACTGA	1150
CGTCAAGCCA	TAGCAAAATA	GAGGACAGAG	GAGCTAGTCA	ACAAAGGGAA	1200
AGTTTGGACT	TATCAGAAGT	GTCTGAAGTA	GAGTCTAATT	ATGGTGCCAC	1250
TGAAGAGGAT	TTAATAACAT	CTGCATCAAA	AACAGAAGAG	ACCTTGTCAA	1300
AAAAGAGAGA	GTACCAGTCT	TCCTCCTGTG	TCTCCTCCAC	ATCCTCTTCC	1350
TATTCTTCCT	CTTCTGAATC	CAGATTTTCT	GAATCTATTG	GTCGTTTGGA	1400
CTGGGAGACT	CTTGTGCACG	AAAATCTGCC	CGGGCTAATG	GAAATGGATC	1450
AGGATGACCG	TGTTTGGCCC	AGAGACTCAC	TCTTCCGATA	TTTTGAGTTG	1500
CTAGAAAAGC	TTCAGTATAA	CCTAGAGGAA	CGTAAGAAGT	TACAAGAGTT	1550
TGCAGTGCAG	GCACTGATGA	ACTTGAAGA	CAAGTAA		1587

SEQ ID NO: 2 (human CatSper2 protein sequence - variant A2)

MAAYQEEQ	QLPRADAIRS	RLIDTFSLIE	HLQGLSQAVP	RHTIRELLDP	0050
SRQKKLVLD	QHQLVRFSLK	PQRIEQISHA	QRLLSRLHVR	CSQRPPLSLW	0100
AGWVLECLP	KNFIIFLVFL	NTIILMVEIE	LLESTNTKLW	PLKLTLEVAA	0150
WFILLIFILE	ILKWLNSNFS	VFWKSAWNVF	DFVVTMLSL	PEVVVLVGV	0200
GQSVWLQLLR	ICRVLRSCLK	LAQFRQIQII	ILVLVRALKS	MTFLMLLLI	0250
FFYIFAVTGV	YVFSEYTRSP	RQDLFYHVFF	SDLPSNLVTV	FILFTLDHWY	0300
ALLQDVWKVP	EVSRIFFSIY	FILWELLGSI	IFRSIIIVAMM	VTNFQIRKE	0350
LNEEMARREV	QLKADMFKRQ	IIQRKNMSH	EALTSSHSKI	EDRGASQORE	0400
SLDLSEVSEV	ESNYGATEED	LITSASKTEE	TLSSKKREYQS	SSCVSSTSSS	0450
YSSSESERFS	ESIGRLDWET	LVHENLPGLM	EMDQDDRVWP	RDSLFRYFEL	0500
LEKLQYNLEE	RKKLQEFVQ	ALMNLEDK			0528

SEQ ID NO: 3 (human CatSper2 cDNA sequence - variant C1)

ATGGCCGCTT	ACCAACAAGA	AGAGCAGATG	CAGCTTCCCC	GAGCTGATGC	0050
CATTGTTCA	CGTCTCATCG	ATACTTTCTC	TCTCATTGAG	CATTGCAAG	0100
GCTTGAGCCA	AGCTGTGCCG	CGGCACACTA	TCAGGGAGTT	ACTTGATCCT	0150
TCCCGCCAGA	AGAAACTTGT	ATTGGGAGAT	CAACACCAGC	TAGTGCGTTT	0200
CTCTATAAAG	CCTCAGCGTA	TAGAACAGAT	TTCACATGCC	CAGAGGCTGT	0250
TGAGCAGGCT	TCATGTGCGC	TGCAGTCAGA	GGCCACCTCT	TTCTTTGTGG	0300
GCCGGATGGG	TCCTTGAGTG	TCCTCTCTTC	AAAAACTTCA	TCATCTTCCT	0350
GGTCTTTTGT	AATACGATCA	TATTGATGGT	TGAAATAGAA	TTGCTGGAAT	0400
CCACAAATAC	CAAACTATGG	CCATTGAAGC	TGACCTTGGA	GGTGGCAGCT	0450
TGGTTTATCT	TGCTTATTTT	CATCCTGGAG	ATCCTTCTTA	AGTGGCTATC	0500

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CAACTTTTCT	GTTTCTGGA	AGAGTGCCTG	GAATGTCTTT	GACTTTGTTG	0550
TTACCATGTT	GTCCCTGCTT	CCCGAGGTTG	TGGTATTGGT	AGGGGTAACA	0600
GGCCAATCGG	TGTGGCTTCA	GCTTCTGAGG	ATCTGCCGGG	TGCTGAGGTC	0650
TCTCAAAGTC	CTTGCACAAT	TCCGTCAAAT	TCAAATTATT	ATTTTGGTCC	0700
TGGTCAGGGC	CTTCAAGAGC	ATGACCTTCC	TCTTGATGTT	GCTGCTCATC	0750
TTCTTCTACA	TTTGTGCTGT	GACTGGTGTG	TACGTCTTCT	CAGAGTACAC	0800
CCGTTACCTT	CGTCAGGACC	TGGAGTACCA	TGTGTTCTTC	TCGGACCTCC	0850
CGAATTCCCT	GGTAACAGTG	TTCATTCTCT	TCACCTTGGA	TCATTGGTAT	0900
GCACTGCTTC	AGGACGTCTG	GAAGGTGCCT	GAAGTCAGTC	GCATCTTCAG	0950
CAGCATCTAT	TTCATCCTTT	GGTTGTTGCT	TGGCTCCATT	ATCTTTCGAA	1000
GTATCATAGT	AGCCATGATG	GTTACTAACT	TTCAGAATAT	CAGGAAAGAG	1050
CTGAATGAGG	AGATGGCGCG	TCGGGAGGTT	CAGCTCAAAG	CTGACATGTT	1100
CAAGCGGCAG	ATCATCCAGA	GGAGAAAAAA	CATGTCACAT	GAAGCACTGA	1150
CGTCAAGCCA	TAGCAAAATA	GAGGACAGGT	CGTTTGGACT	GGGAGACTCT	1200
TGTGCACGAA	AATCTGCCCC	GGCTAATGGA	AATGGATCAG	GATGA	1245

SEQ ID NO: 4 (human CatSper2 protein sequence - variant C1)

MAAYQQEEQM	QLPRADAIRS	RLIDTFSLIE	HLQGLSQAVP	RHTIRELLDP	0050
SRQKKLVLGD	QHQLVRFSIK	PQRIEQISHA	QRLLSRLHVR	CSQRPPLSLW	0100
AGWVLECPLE	KNFIIFLVFL	NTIILMVEIE	LLESTNTKLW	PLKLTLEVAA	0150
WFILLIFILE	ILLKWLNSFS	VFWKSAWNPF	DFVVTMLSL	PEVVVLVGV	0200
GQSVWLQLLR	ICRVLRSLKL	LAQFRQIQII	ILVLVRALKS	MTFLMLLLI	0250
FFYIFAVTGV	YVFSEYTRSP	RQDLEYHVFF	SDLPSNLVTV	FILFTLDHWY	0300
ALLQDVWKVP	EVSRIFFSIY	FILWLLLGSI	IFRSIIVAMM	VTNFQNIKE	0350
LNEEMARREV	QLKADMFKRQ	IIQRRKNMSH	EALTSSHSKI	EDRSFGLGDS	0400
CARKSARANG	NGSG				0414

SEQ ID NO: 5 (murine CatSper2 cDNA sequence)

ATGGCACAAG	AACAAGGACA	TTTCCAGCTG	CTCAGAGCTG	ATGCTATCCG	0050
TTCAAAGCTC	ATTGACACTT	TCTCGCTCAT	AGAGCATTG	CAGGGCTTGA	0100
GCCAAGCCGT	ACCAAGGCAC	ACTCTCCGGG	AGATACTTGA	TCCTGCTTAC	0150
CAGCAGAAAC	TCATGTCAGG	AGATCAGGAG	CAGCTAGTGC	GCTTCTCCAT	0200
AAAGCCTCGG	CGAATGGGGC	ACATCACACA	CTCGCGGCGG	TTGCTGAGCA	0250
GGCTTCGCGT	GCGGTGCAGT	CGAATGCCCC	CTCTTTCCTT	GTGGGCTGGA	0300
TGGGTCCTTG	ATAGTTCTGT	CTTCTCGAAA	TTCATCATCT	CCCTCATCTT	0350
TCTGAACACC	TTTGTGCTGA	TGGTTGAAAT	AGAATTGATG	GAATCCACAA	0400
ATACTGCTCT	GTGGCCAGTG	AAGCTGGCTT	TGGAGGTGGC	AGATTGGTTC	0450
ATCTTGCTTA	GCTTCATTGT	AGAGATACTT	CTAATGTGGT	TGGCCAGTTT	0500
TTCTCTCTTC	TGGAAGGATG	CCTGGAATGT	CTTTGACTTT	TTTGTTACCT	0550
TGTTGTCTCT	GCTTCCTGAG	TTAGTAGTGC	TGTTAGGAGT	CCCAGCACAC	0600
TCTGTGTGGC	TCCAGCTGCT	GAGGCTCTGT	CGGGTGCTGA	GGTCTCTCAA	0650
ACTGTTTGCA	CGATTCCGTC	AAATTAAAGT	TATTCCTTTT	GCTCTGGTCA	0700
GGGCCCTGAA	GAGCATGACG	TTCCCTCTGA	TGTTGCTGCT	TATCTTCTTC	0750
TACATTTTTG	CTGTGACTGG	TGTCTACTTC	TTCAGAGAAT	ATCCCCGATC	0800
AACTATCGAG	GGCCTGGAGT	ACAACATGTT	CTTCTCGGAC	CTACTAAATT	0850
CACTGGTGAC	AGTGTTTCATC	CTCTTCACCT	TGGATCATTG	GTATGCAGTA	0900
CTTCAGAATA	TCTGGAAGGT	GCCAGAATCT	AGCCGTGTCT	TTAGCAGCAT	0950
CTATGTTATC	CTTTGGTTGC	TGCTTGGCTC	CATAATCTTT	CGAAATATCA	1000
TAATAGCCAT	GATGGTTACT	AACCTTCAGA	ATATCAGAAG	TGAGCTGAGT	1050
GAGGAGATGA	GCCACCTGGA	GGTTCAGTAT	AAAGCTGACA	TGTTCAAGCA	1100
ACAGATTATC	CAGAGGAGAC	AGCACTCTGA	ATCACTAAGA	GGGACCAGTC	1150
TTGGAAAGGT	CTCCGAAGAC	ATAATAGAAA	CTTCTGATGC	TAGTGATGAT	1200
GATGACGATG	ACGACGATGA	TGACGACGAC	GATGATGATG	ATGATGATGA	1250
CAAAAGCGAT	GCTACTGAAA	GCGATGGCGA	GGAAAGCGAT	AGTGAGAATA	1300
GTGAGAGTGA	GAATAGCGAG	AGCGAGAAAA	TTGATCCTGA	GAAAGACTAT	1350
GCCAAGAAAA	GCTATCCTGA	GAAAAGCCAT	CCTGAGAAAA	GCTATCCTGA	1400

GAAAAGCCAT CCTGAGAAAA GCTATCCTGA GAAAAGCCAT CCTGAGAAAA 1450
 GCTATGATGA ACAGGCTGAA GCTGAAAAAG TAAAAGAAGA GTCAAAAGAA 1500
 AAAGCCTACC CAGTTTCCCA TTCAATCTCG TCCCATGGCT CCATTGCAGC 1550
 CGATACTGCT TTCTTGAAA ACCTGGACTG GGAGACCCTT GTGCATGAGA 1600
 ACCTGCCTGG GCTAATGGAC ATGGATCAGG ATGACCCCAT TGTCTGGCCC 1650
 AGAGACTCAC TCTTCCGATA TTTCGAGTTA CTGGAAAAGC TTCAGTATAA 1700
 CCTAGAAGAG CGCAAGAAGT TACAAGAATT TGCAGTCCAG GCCCTGATGA 1750
 GTTTGAAGA CAAGTGA 1767

SEQ ID NO: 6 (murine CatSper2 protein sequence)

MAQEQQGHFQL LRADAIRSKL IDTFSLIEHL QGLSQAVPRH TLREILDPAY 0050
 QQKLMSGDQE QLVRFISKPR RMGHITHSRR LLSRLRVRCR RMPPLSLWAG 0100
 WVLDSSVFSK FIISLIFLNT FVLMVEIELM ESTNTALWPV KLALEVADWF 0150
 ILLSFIVEIL LMWLASFSLF WKDAWNVDFD FVTLLSLLPE LVVLLGVPAH 0200
 SVWLQLLRVC RVLRLSLKLF RFRQIKVILL ALVRALKSMT FLLMLLLIFF 0250
 YIFAVTGVYF FREYSRSTIE GLEYNMFFSD LLNSLVTVFI LFTLDHWYAV 0300
 LQNIWKVPES SRVFSSIIYI LWLLLSIIIF RNIIIAMMVT NFQNIRESLS 0350
 EEMSHLEVQY KADMFKQQII QRRQHSLSR GTSLGKVSSE IIETSDASDD 0400
 DDDDDDDDDD DDDDDDDKSD ATESDGEESD SENSESENSE SEKIDPEKDY 0450
 AKKSYPEKSH PEKSYPEKSH PEKSYPEKSH PEKSYDEQAE AEKVKEESKE 0500
 KAYPVSHSIS SHGSIAADTA FLENLDWETL VHENLPGLMD MDQDDRIWVP 0550
 RDSLFYRFEL LEKLQYNLEE RKKLQEFAYQ ALMSFEDK 0588

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